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DECEMBER 31, 1892

SYNOPSIS
OF THE
EDIBLE FISHES
AT THE
CAPE OF GOOD HOPE.

BY L. PAPPE, M.D.

Ut desint vires, tamen est laudanda voluntas.

Ovid. Epist. ex Ponto. III. 4. 79.

CAPE TOWN.
VAN DE SANDT L. TAATS. CASTLE-STREET.
1853.

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CAPE TOWN:

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TO

EDUARD POEPPIG, M.D.,

PROFESSOR OF NATURAL HISTORY AT THE UNIVERSITY OF
LEIPSIK,

(THE RENOWNED SOUTH AMERICAN TRAVELLER)

THIS LITTLE WORK

IS MOST RESPECTFULLY DEDICATED, BY

THE AUTHOR.

INTRODUCTION.

WHILE engaged in the study of the *Cape Algæ*, my attention was almost imperceptibly directed to the Fishes that inhabit our bays. This branch of Colonial Natural History, I knew from experience, had hitherto been but little cultivated, and I thought it worth while, to arrange scientifically those species at least, which are used as food, and, to a considerable extent, form an article of trade.

In publishing this ichthyological essay, I am fully aware, that I venture on a path, hardly trodden before in this Colony. It will therefore contain defects hereafter to be corrected, especially as I have been unable to refer to, and compare, some of the standard works on Ichthyology; my chief guide having been personal observation, the accounts of the fishermen, and, above all, nature herself.

The principal South African travellers, such as SPARRMANN, THUNBERG, BARROW, LICHTENSTEIN, and BURCHELL, although their many discoveries in the field of Natural Science, secured for them a well-merited rank amongst Naturalists, appear to have paid little or no attention to the cold denizens of the deep, and it was only in later years that this part of our *Fauna* became the subject of observation and study. Amongst the learned, that took a lively interest in South African Ichthyology, Messrs. QUOY and GAYMARD, attached to the French Corvette *l'Uranie*, Capt. FREYCINET, stand foremost; for during their stay at the Cape in 1818, they were busily engaged, collecting specimens of the various fishes caught in its bays, for the Museum of Natural History of France.

This institution was also enriched, through the industry of Monsr. DELALANDE, a Naturalist, who visited this Colony in 1820, where he made large and valuable collections, and by Mr. JULES VERREAUX, deservedly known for his consummate skill in preparing and mounting specimens, illustrative of Natural History, who, during his nine years residence at the Cape, from 1825—1834, sent home to Paris, amongst other zoological objects, many species of Cape fishes.

In like manner, the Museums of the Netherlands received ichthyological specimens through the late Dr. HUBERTUS BENEDICTUS VAN HORSTOCK, of *Alkmaar*, a zealous Zoologist and a Physician, who, for his medical acquirements, will live long in the recollection of many an old patient and friend.

Dr. LOURENCO JOSE MONIZ, from 1844—1846, one of H. F. M. Commissioners to the Mixed British and Portuguese Court for the suppression and abolition of the Slave Trade, greatly interested himself in the study of Cape fishes, a collection of which he took with him, on his return to Lisbon.

Cape Ichthyology however owes most to the indefatigable exertions and labours of that renowned South African traveller, Dr. ANDREW SMITH, whose admirable work on the Zoology of this country, not only contains beautiful illustrations, but also the most elaborate descriptions of a number of fishes, peculiar to the Cape of Good Hope.

The account given in the following pages, merely contains the *edible fishes* caught in Table Bay and False Bay, as also on the coast of Hottentots' Holland. Being but imperfectly acquainted with the fresh-water fishes, found in the rivers of the Colony, I have omitted them here, though some are said to be excellent.

Dr. W. H. HARVEY, in his work on the Genera of South African plants, justly remarks, that there exists a marked difference with regard to the species of *Algæ* found in Table Bay, and those in the bays eastward of

the Promontory. The same diversity takes place respecting several kinds of fishes, which are rare or absolutely wanting in the one bay, although common in the other. It is difficult to account for this phænomenon, but as to the fishes, it seems probable, that, as particular crustaceæ, mollusca, and sea worms, which feed on certain species of sea weed, are the chief nourishment of certain species of fishes, these last prefer the neighbourhood of such localities, where they find supplies of food most proper for themselves and their progeny.

Another curious circumstance, connected with the Ichthyology of this country, deserves the attention of naturalists; viz: the fact, that not less than a dozen of fishes, natives of the Mediterranean, are likewise inhabitants of the waters washing our shores, while hardly any Indian or South American species are known to exist on the South African Coast. In common, however, with the United States, we possess the *Scomber grex*, which is as abundant at the Cape as at New York.

The fishes peculiar to the Mediterranean and this Colony, are the following species:

Sphyræna Vulgaris,* *Boops Salpa*, *Temnodon Saltator*, *Caranx Trachurus*, *Lepidopus Argyreus*, *Centriscus Scolopax*, *Scomberesox Sardus*, *Engraulis Encrasicolus*, *Gadus Merlucius*, *Echeneis Remora*, *Meliobates Aquila*, and *Leptocephalus Morrissii*.†

Amongst the fishes caught in Simon's Bay, and along the eastern shores, there is *one* in particular, which, for its extremely poisonous quality, is the terror of the fishermen and of the inhabitants, viz: the *Tetraodon Honkenyi* *Bloch*, of which a somewhat detailed description may be acceptable.

* A young individual of this fish was caught with the net, along with the Cape Mullet, in November last. It was unknown to the fishermen here.

† This curious little, ribbon-like fish, not uncommon in Table Bay, is to be found amongst the rocks and sea weed. While in its natural element, it is perfectly transparent like glass, but soon becomes opaque when brought into contact with fresh water or alcohol.

Body oblong; skin thick, flabby, slimy, provided with small prominent prickles, particularly on the lower surface; belly capable of being inflated like a balloon. Head short, broad, flat; lower mandible projecting; both jaws sharp, cutting, each divided into the appearance of two teeth. Nostrils before and in front of the eyes, tubulous. Gill covers and three gills concealed under the skin, which has a small branchial cleft on each side. No ventral fin; vent far behind, pectorals, and anal fin rounded.

Ribs almost obsolete, intestines twice bent and without cœcal appendages, liver one-lobed, obtuse above, and pointed at base; milt and gall-bladder small, the latter of the size of a large pea. Kidneys large, placed very high, resembling lungs. Swim-bladder 2-lobed. Head, back and flanks brownish-green, marbled with greenish-white irregular blots. A broad, longitudinal, brimstone-coloured band, proceeds on each side of the body, from under the lower jaw, towards the tail. The lateral line commences under the eyes, ascends upwards, and ends near the caudal fin. All fins olive-green with a yellow tint. Belly white. Eyes small, partly covered by the skin; pupils light bottle-green; iris blood-red. Length 6—7 inches. Pect. 14. Dors. 9. Caud. 9. Anal 7.

This fish (*Blaasopvisch*; *Balloonfish*; *Toadfish*) is never found in Table Bay, but is very common in the bays to the east of it. It is very voracious and therefore easily caught. As soon as it is taken out of the water, it becomes inflated to a considerable extent, utters a particular sound resembling a grunt, and by its sparkling eyes, which then look truly terrific, betrays extreme ferocity.

In consequence of its covered gills and muculent coat, it lives for a considerable time out of its element. It has a nauseous odour and feeds on mollusca and crustaceans.

The highly poisonous nature of this small fish, has been long known to the fishermen of the Colony, yet several persons have fallen a sacrifice from using it as food. I have it from good authority, that during the war times, when Muizenburg and the surrounding country were occupied by an English encampment, some soldiers, who had been fishing on its coast, were killed by eating imprudently of it. But we have more recent cases on record, which prove beyond doubt its virulent property, for in August 1845, two seamen, belonging either to the *Banka* or *Postillion*, Dutch men-of-war, then lying at anchor in Simon's Bay, met with an untimely death, from having partaken of this fish, while the same fatal result, in August 1846, occurred to one of the crew* of the French Corvette *L'Oise*, who died on board of that vessel from the very same cause.†

The symptoms usually observed in cases of poisoning of this kind, are nausea, colic, great heat and itching of the skin, quick pulse, giddiness, loss of vision, cold clammy perspiration, and finally death under convulsions. The exact nature of the poison has as yet been but little ascertained. It has been ascribed by some to the feeding of the fish on poisonous Mollusca, by some to the disengagement of sulphuretted hydrogen, and by others again to a particular specific venom, not yet discovered by chemical analysis. Whether the fish possesses that poisonous quality at all seasons, is not sufficiently known, but it seems, that most species belonging to the tribe are equally noxious, for OSBECK,‡ in his voyage to China,

* This man's name was *Pierre Couzinet*.

† In order to prevent similar occurrences in Simon's Bay, Government would greatly contribute to the public safety, by inserting in the Port Regulations a general warning against the use of this dangerous fish. A hint to that effect, was thrown out at that time in *Silberbauer's Shipping List* for 1846, August 14th, No. 137, but no notice, I think, has been taken of it by the authorities.

‡ *P. Osbeck's Voyage to China and the East Indies*. Forster's Engl. transl. vol. 1. pag. 364-365.

gives the following account of "*Tetraodon ocellatus* Lin." "This fish (he relates) is one of the finest I ever saw, but so poisonous, that whoever eats of it, generally dies in two hours time. The Chinese, who affirmed the fact, seeing me take the fish into my hands, earnestly desired me to wash myself, adding, that it is forbidden under some great penalty, to be sold among other fish."

The *Tetraodon* of the Red Sea, described and figured as *T. Honkenyi*, by E. RÜPPEL,* differs from our fish, as will be found on comparison. The Cape species is evidently identical with that of BLOCH, and it is probable, that this naturalist received his specimen, not from the East Indies, as he states, but from this Colony, the more so, as no more specimens, I believe, have ever been obtained from that quarter.

The characteristic features, which distinguish our fish, from that of the Red Sea, are a protruding lower jaw, rounded tail and pectoral fins, and a different hue.

By the Cape fishermen, the *Agriopi* (Paardevisch; Sea-horse), of which we have three very distinct varieties, are also said to be poisonous. The truth of this assertion, which is the mere result of imbecility and popular prejudice, I do not hesitate to contradict; but CUVIER† must have been greatly misinformed, in stating, that these fishes are eaten by the Cape Colonists.

The importance of fish as an article of commerce, is by no means insignificant at the Cape. Its several fishing establishments, afford a livelihood and occupation to a number of persons, belonging chiefly to the lower class. Much more could be effected, but for the heavy expenses attending this branch of colonial industry, produced by the comparative want of manual labour. The principal foreign market for our fish-trade is the Mauritius, to

* Atlas zur Reise im nördlichen Africa. Fische. Tab. 17.

† Histoire des Poissons. IV. pag. 387.

which place considerable quantities are annually exported, as will be seen from the following statistical statement, kindly furnished me by a commercial friend :—

Export of dried Fish from Cape Town :

In 1849,	13,800	Cwt.
„ 1850,	17,800	„
„ 1851,	15,200	„
„ 1852,	12,500	„

It is difficult, nay almost impossible, to form an estimate of the probable consumption of fish within the colonial borders. Judging, however, from the great quantities used in a dried, pickled, and smoke-dried state, as an article of internal traffic, and taking into consideration, that fish is almost the principal food of the poorer people in Cape Town and other ports, that consumption must necessarily be very considerable.

But it is not as nourishment alone, that fish is made subservient to commerce. The preparation of *Isinglass* affords to some countries the means of extensive trade and speculation. The air-bladder of some of our fishes, being large and firm, might yield that valuable substance, if we were willing to try the experiment. I make this observation with some confidence, having been told, that one of our principal wine-merchants makes use of the dried bladder of the Cape *Kabeljauw*, instead of isinglass.

Besides the *Fishes* enumerated and described in this treatise, there are some Crustaceans, and several Mollusca, inhabitants of our seas, used as food by the Colonists. Amongst these, the Cape Lobster (*Palinurus Lalandii* Lam.), is by far the most remarkable. This crawfish, peculiar only to the West Coast, and common to Table Bay, is easily caught in vast numbers all the year round, and attains a length of thirteen, and a breadth of nearly five inches. The flesh of the half-grown individuals is tender and delicate, while that of the adults is coarse and difficult of digestion. To the poorer classes of our

community, and to *Misers*, this crawfish is a regular God-send, and it is dried occasionally for preservation. Another crustacea, a kind of *Palæmon* (Graneel, Shrimp) though small, is very good eating.

Amongst the Mollusca, none are more eagerly caught, and none have such a deserved reputation as *Haliotis Midæ* Lin. (Klipkous; Sea-ear), and a species of *Stomatia* (Paarlmoer). In Cape Town, these oceanic productions, which, by the bye, require a great deal of preparation, seasoning and ingredients before they reach the dinner table, are pronounced to be the most exquisite dainty,—the very pitch of delicacy. Cape Oysters (chiefly from Mossel Bay), are good, but, upon the whole, inferior to those in Europe. There still remain some muscles to be mentioned, which are collected at times, and sold as articles of food, viz: the *Mytilus edulis*. Lin., the well-known edible muscle of Europe, and *Donax denticulata*. Lin., called Witte Mossels (white muscles), which latter is innocuous at some seasons, but venomous at others. In the course of my practice, I have had occasion to observe the bad effects, produced by the unguarded use of this animal. These were: violent fever, a general erythema of the skin, perpetual, almost intolerable itching, total want of sleep, vomiting and diarrhoea.

By some Cape inhabitants, several large species of *Patella* (Paardevoetjes, Limpets), and a kind of *Nerita* (Aardkruipers), are also made use of, as a palatable and nutritious dish.

Having thus far accomplished the task I had in view, when writing this essay, nothing remains, but to solicit indulgence from the public, and forbearance from critics, referring them all to the motto on the title page, which simply implies, that they must take the will for the deed.

Cape Town, 26th April 1853.

SYNOPSIS

OF THE EDIBLE FISHES AT THE CAPE OF GOOD HOPE.

TRIGLIDÆ.

1. *TRIGLA CAPENSIS*. CUV. AND VAL. (?) (*Roode Knorhaan*; *red Gurnard of the Colonists*.)—Head, back, upper part of body, and fins rose-red. Belly silvery, white, shaded by rosy patches. Scales very small; lateral line nearly parallel. Interior surface of the pectoral fins dark yellowish-green, with large black marks towards their bases, speckled with a number of pure white irregular spots. Iris red. Length 12 inches.

Baron CUVIER, in giving a very short diagnosis of this species, specimens of which were sent him from the Cape by DELALANDE, remarks that “the dark spots at the inner surface of the pectoral fins were wanting; but I have reason to believe, that his specimens had faded, and that through the effects of the spirits, in which they were preserved, the natural colours had been more or less obliterated. Experience, and the accounts of the fishermen here, convince me, that this and the following species, are the only ones of the genus, caught in our Bays. CUVIER’s observation, that the fish bears a great resemblance to the *Trigla Kumu* of New Zealand, is perfectly correct.

Flesh firm, but palatable. Caught in summer with the hook, but not very common in Table Bay.

2. *TRIGLA PERONII*. CUV. & VAL. (*Graauwe or bruine Knorhaan*; *grey Gurnard*.)—Head large; forehead sloping; body declining in breadth towards the tail. Muzzle projecting; teeth small but numerous; upper mandible longest, divided into two lobes, and beset at its margins with five denticles. Two spines, unequal in length, are placed above each eye, and a strong spine at each side of the occiput; opercular and scapular spines pointed, sharp. Anterior side of the first ray of the first dorsal fin slightly serrated; the second and third rays of that fin longer than the remaining seven. Ridges of dorsal

grove, armed with a row of twenty-four blunt denticulations. Pectoral fins large, reaching beyond the vent; tail lunated. Lateral line smooth; scales small, oval. Head, back, and sides brownish-grey, mottled with white spots; belly pure white, mixed with purple. Pectoral fins olive-green on the inner surface, edged with azure, and embellished by a large black mark, sprinkled with white and sky-blue dots. Lower jaw and part of the pectoral and caudal fins pale-red, tinged with yellow. Iris with white aurora-red. Length from seven to fourteen inches.

This species appears to be nearly related to *T. Lyra*, of Europe, and although it does not correspond in every particular with CUVIER's description, yet I think, that it is the same fish, which was anatomized by that Prince of Naturalists.

Not often caught in Table Bay; flesh equal to that of the preceding species.

SCORPÆNIDÆ.

3. SEBASTES CAPENSIS. CUV. & VAL. (*Jacob Evertsen*.) Body oblong, robust. Head large, bony, channelled above and between the eyes, and armed with spiny processes; gill covers and preoperculum strongly toothed at the margins. Eyes very large, protruding from their sockets. Mouth wide, gaping; lips fleshy; teeth crowded, paved, small, sharp, and curved in both jaws. Soft rays of dorsal fin longest. Liver unequally three-lobed, gall-bladder of an oval form, and the pylorus provided with numerous cœcal appendages. Air-bladder large. Tile-red, with shades of orange, white, and yellowish-green; marked on the sides with a few flesh-coloured spots. Belly white, tinged with orange. Palate and peritoneum greyish-white. Length 12—15 inches.—Called *Jacob Evertsen*, after a Dutch Captain, remarkable for a red face and large projecting eyes.

This fish, though common to Table Bay almost at all seasons, is highly prized for its flesh by most Colonists.

4. SEBASTES MACULATUS. CUV. & VAL. (*Sancord*.)

Similar to the former, but shorter, of a more slender form, and with eyes, neither projecting, nor mouth much gaping. Liver rather large, three-lobed; gall-bladder narrow and club-shaped; pylorus without regular cœcal appendices, but surrounded by a glandular greasy mass. Natatory bladder wanting; palate and peritoneum black. Snout obtuse; teeth criniform, arranged in a band around the inner edge of both jaws. Upper part of body tile-red, mingled with orange and shaded with brown. Scales with greenish-brown edges. Belly white, clouded with orange, and tinged with yellow. Length eight to twelve inches. Dorsal fin dim tile-red, sprinkled with yellowish-green irregular marks, and with darker chesnut-brown spots at the base of the membranous portion of its first spiny rays. Hue of pectoral, anal, ventral, and caudal fins, orange with carmin-red; the 8 lower rays of the pectoral fins detached at top from their connecting membrane. Iris yellow.

A very delicious fish, but not very common. Caught chiefly in winter. Dr. A. SMITH, in his illustrated work on South-African Zoology, has confounded this species with the former. Though in their general outlines closely related, both fishes are however easily discerned, not only by outward appearance, but yet more by their anatomical differences, the one having a swim-bladder and the other not, and from the colour of the palate and peritoneum, which are white in the first species, but black in the second.

SCIÆNINÆ.

5. SCIÆNA HOLOLEPIDOTA, CUV. & VAL. (*Kabeljauw.*) Body elongated, stout. Head large, rounded, bony; mouth moderately large; both mandibles armed in front with a row of strong, short, pointed, cylindrical, hooked teeth; none on the palate. Dorsal fin divided by a deep notch; its soft rays longer than the spiny. Caudal fin truncate. Head purplish-blue, with aurora-red, mottled with yellow and green shades. Back and sides above the lateral line greenish-blue, marbled with faint orange and purple; fins often rose-red; lower part of

the body pale flesh-red, mixed with green, purple, and white.

A large fish, from two to three feet long. Common on the coast and at the mouth of rivers; caught with the hook and drag-net. Is one of the staple fishes on the market, dried and salted like *Cod*, and exported to the *Mauritius*, and elsewhere. Its flesh, when young, is good, but firm and dry in adult individuals.

6. OTOLITHUS ÆQUIDENS. CUV. & VAL. (*Geelbeck*.) Body oblong; head conical; mouth middle-sized; lower jaw pointed, longest. Teeth in both mandibles nearly alike, numerous, sharp, crooked; the anterior ones of the upper jaw, largest. First dorsal fin low, spiny; caudal semilunated. Back and sides above the lateral line, dull bluish-purple, intermixed with green and orange; upper surface of head flashed with aurora-red; lower parts silvery white, tinted with purple-grey. Inside of mouth gamboge-yellow.* Iris orange.

Clumsy, attaining a length of three feet and more. Flesh dry, but fit for salting. Common along the whole coast, where it is caught abundantly with the hook or net. It forms an article of food for the poor and *lazy*, and it is also prepared for exportation.

7. UMBRINA CAPENSIS. MIHI. N. SP. (*Baardmannetje*.) Snout obtuse, thick, truncate; lower jaw shortest with a barbel; dorsal fins distinct. Head reddish-brown tinged with gold. Back and sides ash-coloured on a silvery base. Lower jaw and belly white, sprinkled with minute dark dots. Scales large. Iris silvery.

Measures from 2 to 2½ feet, and is reputed for its delicious flesh. Chiefly caught in False Bay during summer.

8. CHEILODACTYLUS FASCIATUS. CUV. & VAL. (*Steenvisch*.)—Body oblong, spindle-shaped; head small; lips fleshy, retractile; the upper one longest. Eyes middle-sized, placed near the crown; mouth small; teeth velvety. The five last rays of the pectoral fins extended beyond their membrane, cartilagenous; second ray largest, being three inches long; the other three, shorter and shorter.

* Hence the vernacular name *Geelbeck* (yellow mouth).

Caudal fin forked, scales large, almost quadrangular; seven longitudinal stripes, covered with smaller scales, along the whole extent of the dorsal fin. Head olive-green, intermixed with orange; upper part of sides brimstone-yellow, tinged with green, purple and orange. Body crossed by five or six irregular vertical, purplish-brown bands. Belly yellowish-white, mottled with olive-green. Mouth and pectoral fins deep orange; the lengthened rays of the latter rose-red, upper ones and tail variegated with purplish lines. All other fins yellowish-green, with purplish-brown stripes or blots. Iris yellow. Length 13, breadth $4\frac{1}{2}$ inches.

A good table fish; caught with the hook. Not very abundant in Table Bay.

9. CHEILODACTYLUS BRACHYDACTYLUS CUV. & VAL. (*Steenklipvisch*; *Pompelmoesje*).—Body oval; head small; lips fleshy, the upper one a little projecting; mouth obtuse; teeth criniform. The last six rays of the pectorals, cartilaginous, slightly detached from their connecting membrane, the second and third of them longest. These are rose-red, while the remainder, as well as the ventral fins are of an orange hue. Opercular and pre-opercular scales very small; those of the body rather large. Head, back and flanks greenish-brown, lower parts and belly, silvery-white. Operculum and pre-operculum rose-red, tinged with silver and golden bronze. Middle-line sprinkled with six or seven dirty-white irregular dots. Fins brownish-green. Iris silvery, encircled by a yellow ring; pupil dark blue. Total length 7 inches, breadth $2\frac{1}{2}$ inches.

Lives amongst the rocks at Green-point, and feeds on small Crustaceæ. Its flesh is tender and wholesome.

SPARIDÆ.

10. SARGUS HOTTENTOTTUS. A. SMITH. (*Hangberger*).—Body broad, nearly ovate; head small, projecting in front; incisors firm, trenchant, similar to the

human.—Colour blackish-brown, tinted with purple; back and sides crossed by five broad black vertical bands; belly silvery-white. Length about eighteen inches.

Common to Table Bay from June to August, and much in request particularly at the time when it is with roe. It is also cured and pickled for æconomical purposes.—From the circumstance of its being chiefly taken in deep water, near a place called *Hangberg* (overhanging rock), it has received its present colonial name. It feeds on shell-fish and is caught with the hook.

11. *SARGUS CAPENSIS*. A. SMITH. (*Hottentot Fish*.) Body much resembling that of the former, but more attenuated at base, and destitute of any bands or vertical stripes. Head purplish; back dull bluish-green with a metallic gloss; sides beneath the longitudinal line, silvery, with a reddish tint. Iris white.

Caught at all seasons with the hook, and is not only a superior table fish, but forms, when salted and dried, an article of exportation. Mostly confined to Table Bay and the West Coast, where it is found abundantly. Length from twelve to fourteen inches.

12. *CHRYSOPHRYS GLOBICEPS*. CUV. & VAL. (*Stompeus*.)—Forehead arched, rounded, almost gibbous, muzzle obtuse, small; teeth thick, firm, tubercular, standing in four rows on the sides of both jaws. Body broad. Crown above the eyes olive-green with aurora-red. Back bluish-grey; belly white, silvery; a black spot at the insertion of the pectorals; Iris red; pupil dark. The younger individuals have six or seven brown longitudinal stripes, and six transversal dark bands, which disappear in the adults.

A favourite fish, and often caught in great abundance during summer, with the drag-net. It also makes an excellent pickle-fish.

13. *CHRYSOPHRYS LATICEPS*. CUV. & VAL. (*Roode Steenbrasem*.)—Head very large, gibbous; crown elevated, broad, convex, tapering towards the snout; eyes almost vertical; mouth of a moderate size; muzzle pointed, but blunt; lips fleshy. Upper mandible armed in front with four large, strong, conical teeth, and the lower one with six corresponding with those of the upper;

middle teeth smaller than the lateral. Rows of sharp pointed teeth inside the mouth, followed by bands of round, granular molars. Soft rays of dorsal fin higher than the spiny; caudal nearly truncate. Scales large. Liver divided into two unequal lobes of an ochreous hue, and with the gall-bladder proportionally small; gullet dilated into a big, strong, muscular stomach, of an oblong shape; pylorus supplied with four short cœcums of different length. Swim-bladder large, simple and firm. Intestines a little longer than the whole fish. Head faint purple with aurora-red; back dull greyish-green; sides and belly slightly flesh-red, on silvery ground. Groove between the maxillary and intermaxillary bones, saffron-yellow. Fins reddish.

This bulky fish often exceeds $3\frac{1}{2}$ feet in length and 14 inches in breadth. It is very voracious and feeds generally on crabs and cuttle-fish. (*Sepia* and *Loligo*.) As food, it is much prized and is also eured for exportation.—Not very common in Table Bay, but caught abundantly in False Bay and on the shores of Hottentots' Holland.

14. *CHRYSOPHRYS CRISTICEPS*. CUV. & VAL. (?) (*Roman*).—Body of a beautiful orange colour, shaded by silver. Head and jaws of a deep orange hue. Between the eyes a falcated band of pure indigo blue, and a narrow stripe of the same colour, running along each side of the dorsal; a broad, silvery line extends from the dorsal nearly to the anal fin. All fins crimson, with a shade of silver. Iris red. Young specimens do not exhibit the vivid hues, so remarkable in adults. Head and back reddish-brown; flanks and belly orange. An azure dot stands in the centre of the middle line.

One of the prettiest and most delicious fishes on our markets. Its flesh is generally acknowledged to be a superior dish. It is common in the waters east of Table Bay, and especially near the *Roman Rock*, where it is caught with the hook and drag-net in great numbers.—A strayed individual, caught in Table Bay on the 14th of June 1849, measured 16 inches in length, and 7 in breadth.

15. *CHRYSOBLEPHUS GIBBICEPS*. SWAINS. (*Baaische Roode Stompneus*; *Poeskop*).—Head very large, broader

than the body. Front obtuse, truncate; the profile almost vertical. Eyes near the crown, which is elevated and gibbous. Lateral line terminating at the lower side of the tail (Swainson). Mouth middle-sized; teeth strong. Back and sides rose-red; lower parts silvery. Length $1\frac{1}{2}$ to 2 feet.

A large snow-white spot in front of the forehead, enhances the beauty of this singular fish, which ranks amongst the choicest in this Colony. It is rare in Table Bay, but frequently caught with the hook in False Bay, Mostert Bay, Fishhoek, and in similar localities. It is also exported.

16. *PAGRUS LANIARIUS*. CUV. & VAL. (*Dageraad*.) Front higher than in *Chrysophrys*. Strong conical teeth in the upper jaw, which are directed forward, and project from the mouth, the two outer teeth being longer and thicker than the rest, and those of the lower jaw much smaller. The whole fish is of a dark rose-colour, with a black spot at the insertion of the pectorals, and with another on the extremity of the dorsal fin. Lower jaw white; iris silvery; length 12 inches.

Highly prized for its delicious flesh. Not found in Table Bay, but frequently caught with the hook in the waters towards the east and south of Cape Town. This handsome fish owns its surname of *Laniarius* (butcher) both to its colour and to its sharp teeth and voracity.

17. *LITHOGNATHUS CAPENSIS*. SWAINS. (*Blaauwe Kaapsche Steenbrasem*.)—Body elongated, fusiform; head lengthened, projecting; mouth small, terminal; the maxillaries thick, enlarged, very hard; tail slightly forked (Swainson). Back dark marine-blue, belly white tinged with purple. Length $2\frac{1}{2}$ feet and upwards.

An excellent table fish and very fit for pickling and salting. Caught with baited hooks during summer; especially in Hout Bay.

18. *PAGELLUS AFER*. MIHI. N. SP. (*Roode Kaapsche Stompneus*.)—Body ovate, broad, somewhat compressed. Lower jaw a little shorter than the upper one. Mouth obtuse; front teeth conical, stronger and larger than those within; both jaws paved internally with two rows of round molars. Lateral line well-marked. Head and

back aurora-red, mottled with blue and gold on a silvery ground. Sides of the body crossed by five or six sky-blue, broken, longitudinal stripes. Lower mandible and belly white. All fins faintly rose-red; apex of the tail orange. Iris purplish. Length 12—14 inches. Dorsal $\frac{11}{12}$. Anal $\frac{3}{8}$. Caudal, 11. Pectoral, 15. Ventral, $\frac{1}{5}$.

One of the best fishes in the market. Its flesh is white and delicious. Superficially examined, it bears some resemblance to the Cape Silverfish (*Dentex Argyrozona*), from which it is easily distinguished, not only by its broader form, and less vivid hue, but also by the absence of the six rose-red longitudinal bands, and by the formation of its teeth. Caught with the hook during winter, and pretty common on the market.

19. DENTEX RUPESTRIS. CUV. & VAL. (*Bastard Silverfish*; *Seventy-four*.)—Body large, bulky; teeth of the outer row large, cylindrical, curved and pointed; the four front ones of its jaws strongest. Scales large; lateral line broken. Back and sides above the lateral line aurora-red, clouded by ultra-marine, blue, green, and faint purple, with an orange tint towards the tail. Lower parts of the body aurora-red, tinged with orange, and shaded with ultra-marine blue (A. SMITH). Length, about two feet.

Rarely found in Table Bay, but considered one of the very finest fishes in the Colony. It is chiefly confined to the east of the Cape, where it is caught with the hook or net in great abundance. It is also cured for foreign markets.

20. DENTEX ARGYROZONA. CUV. & VAL. (*Silverfish*.) Body oblong; eyes large; mouth of a moderate size; teeth like those of the preceding species.—Head, back, and sides above the lateral line aurora-red on a silvery base; hue below that line faint flesh-red, striped with five to six narrow, longitudinal, pale, rose-red bands. Belly white, silvery; fins purplish-red; Iris scarlet. Length from 16 to 20 inches.

This very voracious fish feeds principally on small fish and crabs. It is common on the Cape market throughout the year, and forms also an article of export.

21. CANTHARUS BLOCHII. CUV. & VAL. (?) (*Windtoy*.)

Body broad, oval. Head tapering towards the muzzle, and forming a curvature above the eyes. Jaws free, somewhat protractile. Anterior teeth small, but sharp; inner rows velvety. Spines of dorsal fin strong, spiny; pectoral fins round at base and pointed at the apex; scales middle-sized. Tail unequal, upper side longest. Length 12 inches; breadth nearly 5 inches.—D. $\frac{11}{13}$; A. $\frac{3}{12}$; P. 17. V. $\frac{1}{5}$. C. 17. Head and back olive-green; sides silvery, with a faint rosy gloss; fins pale rose-red. Pectoral fins with a black spot at their insertion. Iris silvery.

A delicious table fish, more commonly caught in winter, and often put up in bundles along with *Sargus Capensis* (Hottentot fish), from which it is easily distinguished by a very superficial examination.

22. *CANTHARUS EMARGINATUS*. CUV. & VAL. (*Dasje.*) Body lanceolate; front roundish, with a curvature hardly perceptible; muzzle pointed and partly concealed beneath the suborbital bone, which has a deep emargination in front of the eyes. Front teeth small, but crowded, pointed and sharp. Scales minute; lateral line moderately bent and well marked. D. $\frac{11}{12}$. A. $\frac{3}{10}$. V. 5. P. 15. C. 17. Head, back, and sides faint brown, on a silvery ground; a greenish-blue metallic lustre above and in front of the eyes. Body striped with some narrow, yellowish, longitudinal bands; pectoral fins, with a dark spot at their base; abdomen white, tinged with light brown. Length, twelve to fourteen inches.

Rare in Table Bay, but more frequently caught in the several Bays to the East of the Cape. Its flesh is highly esteemed as food.

23. *BOOPS SALPA*. CUV. & VAL. (?) (*Bamboesvisch*; *Stinkvisch.*)—Body subovate, attenuated at both ends; mouth small, obtuse, not protractile; external teeth broad, trenchant; scales minute. Head olive-green; with a flash of gold; body silvery with eight to ten longitudinal golden stripes. Iris yellow. A black speck at the base of the pectoral fin. Length, twelve inches, or more.

The fish feeds only on *Algæ*, and is caught principally in localities, where there is an abundance of sea-weed. Amongst the latter, the *Ecklonia buccinalis* (*Zeebamboes*) and our large *Sargassa*. (*S. longifolium* and *S. integrifolium*) are its usual haunts, and hence the vernacular name of *Bamboo-fish*. On account of its vegetable nourishment, it exhibits at times a particular smell, when embowelled, and is for that reason called *Stink-fish* by some of the fishermen. It is a rich and delicate fish, and though scarce on the Cape Town market, is common in Saldanha Bay, were it is dried and salted for home consumption.

SQUAMIPENNES.

24. *PIMELEPTERUS FUSCUS*. CUV. & VAL. (*Bastard Jacob Evertsen*).—Body oblong, bulky; head small; snout obtuse; teeth strong, cutting, singularly ranged in one row; eyes large, protruding. Fins thick; covered by scales, whence the scientific name (*Fat-fin*). Two dorsal fins, united at base. Length, two feet.

This fish is of a uniform dusky brown colour. Its flesh is well flavoured and very nice. Caught chiefly in Simon's Bay and along the East coast. Feeds on shell-fish.

25. *DIPTERODON CAPENSIS*. CUV. & VAL. (*Galjoenvisch*, *Galleon-fish*).—Body oval; outer teeth strong, large, trenchant, resembling those of *Sargus*. Lips fleshy; mouth proportionally small. Two dorsal fins; the second as well as the anal, and part of the caudal, thick, covered by very minute scales.—Head, back, and fins ash-coloured grey, or faint brown; sides with six silvery vertical bands reaching the middle of the belly, which is silvery-white and tinged with purplish-red. Length, from fifteen to twenty inches.

This fish, more plentiful in the Western Division of the Colony, is highly esteemed as food, and always fetches a good price. It is, however, disliked by some, on account of the many black veins, traversing its flesh, and is at times rather unwholesome, from being too rich, and requiring good digestive organs. It is caught with the drag-net during summer.

SCOMBERIDÆ.

26. *SCOMBER CAPENSIS*. CUV. & VAL. (*Halfcord*). Body oblong, adipose; muzzle obtuse; lower jaw some-

what projecting; teeth numerous, small, velvety. First dorsal fin spiny, connected by a membrane; second dorsal longer than the anal. Pectoral and ventral fins equally long; caudal forked. The lateral line is bent at the upper part of the body, but becomes straight towards its end. Head, back, and sides dark marine-blue, with a broad greenish-yellow streak, running from eye to tail, which latter is crested. Abdomen white, silvery; fins yellowish-green. Iris white.

A large fish, measuring from two to three feet. It is rather uncommon in Table Bay, but taken with the hook occasionally. Its flesh being very rich and deemed unwholesome, it is not in much request, and is therefore chiefly used as pickle-fish.

27. *SCOMBER GREX*. MITCHILL. (*Mackerel*).—Body oblong, rounded, fat, smooth, covered with minute scales; teeth small; dorsal fins two; caudal fin deeply forked; tail bearing finlets; its sides not carinated at base. Has a natatory bladder. Form and colour much like that of the common Mackerel. Body and sides light-green, with darker stripes of the same hue. Length, about eighteen inches and upwards.

This species, which is caught with the line, is little liked, on account of its greasiness. It is common in Table Bay during winter, and is chiefly pickled.

28. *THYRSITES ATUN*. CUV. & VAL. (*Snoek; Snoek*). Body cylindrical, elongated; jaws protracted; the lower one longest. Mouth wide; teeth large, conical, trenchant, sharp; the palate beset with smaller ones. First dorsal fin very long; tail without a lateral keel; skin rather naked. Back blackish-blue with metallic lustre; sides and belly silvery. Length, often exceeding three feet.

This voracious fish is caught with the hook, in immense numbers, almost all the year round, but more frequently during summer. It is very strong and ferocious, and is despatched, after being pulled on board, by blows on the head, with a kind of knobkierie. Its flesh is highly prized by the majority of the Colonists, who also salt and dry it for home consumption, and as an article of trade.

29. *LICHIA AMIA*. CUV. & VAL. (*Leervis*).—Body

compressed, oval, nearly rhomboid; broadest in the middle and attenuated at both ends. Mouth moderately large; jaws of equal length; front teeth in a number of rows, small, but sharply pointed and closely set. A line of large teeth on each side of the palate. Dorsal fins, two; first one with eight detached prickles, the foremost of which is turned forward. Anal fin shorter than the dorsal; tail without lateral keels. Head, back, and upper parts of the sides steel-blue; lower parts silvery, shaded with faint brown. Fins yellowish; belly pure white. Length, from two to three feet.

Taken occasionally in Table Bay, but not in great repute, its flesh being deemed dry and rather insipid.

30. TEMNODON SALTATOR. CUV. (*Elftvisch*).—Body oblong, slightly compressed; mouth large; lower jaw longest; both mandibles armed in front with detached, trenchant, pointed sharp teeth, and within and behind with smaller ones. Dorsal fins, two; first smaller and lower than the second; its rays jointed by a delicate membrane. Tail destitute of a lateral keel and spurious fins. Length about two feet.

This fish is uniformly lead-coloured, shaded with dark-green on its back. From leaping now and then out of the water, it has obtained its name of Saltator (Jumper). It is held in great esteem as a table-fish and the younger individuals are truly deemed a dainty. It is often caught in Table Bay, particularly in summer.

31. CARANX TRACHURUS LACEP. (*Maasbanker*; *Bastard Mackerel*).—Body spindle-shaped, broad, compressed. Each jaw with a row of straight minute teeth. Lateral line armed with scaly, carinated, prickly bands. Dorsal fins, two; first low and small. Pectoral fins long, falcated; two detached spines before the anal fin. Scales minute. Upper part of the body of a bluish lead-coloured hue; lower parts silvery white. Iris gilt. Length, twelve to eighteen inches.

Caught in winter at both ends of the Colony. Its flesh is well flavoured and wholesome.

32. STROMATEUS CAPENSIS. MIHI. N. SP. (*Katunker*.) Body compressed, oblong-rhomboid; head obtuse; mouth small, not projectile; teeth velvety. One dorsal only, covered with epidermis; no ventral fin. Caudal nearly as long as the dorsal. Tail forked; scales small. Longitudinal line almost straight. Head olive-green, upper part of the body light-blue, with some faint yellow longitudinal stripes; belly silvery, with a red tint. Iris white. The specimen from which this description is drawn, measured thirteen inches long and five and a half inches broad.

A good table-fish, but not common. It is caught with the hook and net, chiefly East of Table Bay.

33. LEPIDOPUS ARGYREUS. CUV. & VAL. (*Kalkvisch*; *Scabbard-fish*.)—Body compressed, lengthened, narrow, riband-like; skin smooth. Head pointed, bearing a great resemblance to that of the *Snook*. Mouth gaping, large, armed with rows of strong trenchant teeth, and four larger ones in front. Under jaw projecting beyond the upper. Dorsal fin low and equal, nearly as long as the back; pectoral fins small, hooked; two round scales as rudiments of a ventral fin. Anal fin short, caudal small, forked. Lateral line straight. Colour of back faint steel-blue, on a silvery ground; the whole surface of the body clothed with a silvery dust. Length five feet; breadth from three to four inches.

This curious fish swims in undulating motions and with astounding velocity. It is but very rarely caught in the net. In the course of six years, not more than three individuals, to my knowledge, were taken in Table Bay. I found its flesh fine and delicious.

MUGILLIDÆ.

34. MUGIL CAPENSIS. CUV. & VAL. (*Harder*; *Mullet*.) Body oblong, nearly cylindrical, robust. Head small, broad, flat; muzzle, short, blunt; lower jaw with a depression, corresponding to a prominence in the upper one. Superior mandible provided with a row of fine,

diminutive teeth. Scales rather large. Dorsal fins two; remote from each other; first with four spiny rays; pectoral fins pointed, caudal forked. Surface of head and back dark steel-blue, mingled with oil-green; sides beneath the lateral line greyish-white, on silvery ground; cheeks, lower jaw, belly, and ventral fin white. Fins greyish-green. Body crossed by nine narrow longitudinal lines. Interior of mouth pure-white; Iris silvery. Length fourteen inches; breadth nearly four inches.

This species, as well as the following, enters the mouth of several rivers. Nursed in ponds, it grows extremely fat, and attains an uncommon size. A specimen so fed measured nineteen inches.

35. MUGIL MULTILINEATUS. A. SMITH (?) (*Springer; Leaping Mullet.*)—Greatly resembling the former, but easily distinguishable; its head being neither so broad nor flat, but rather a little convex on its top. Lower jaw more rounded, and body traversed by thirteen longitudinal narrow stripes. Colour of back and upper side greenish-brown: crown of head faint purple with oil-green. Gill covers tinted with gold; ventral fin purplish. Lower part of belly greyish-white on a silvery base. Length twelve inches. It is in the habit of leaping constantly and with considerable velocity, when it finds itself entangled in a net; and hence its name.

Besides the two kinds of Mullet here described, there are three or four more species recorded as inhabitants of the bays and rivers of the Colony. All of them are caught with the net. They make good table-fish, but are more frequently salted or smoke-dried (Bokkoms), like the Herring, and, thus preserved, form a very considerable article of home consumption as well as of export.

BLENNIDÆ.

36. BLENNIUS VERSICOLOR. MIHL. N. SP. (*Klipvisch.*) Body elongated, smooth, slimy, spindle-shaped; head thick, obtuse; forehead tapering towards the snout. Muzzle short, truncate; mouth small; lips fleshy; teeth in several rows; those of the first, strong, pointed, conic, hooked; inner ones small, paved. Dorsal fin nearly as

long as the body, commencing right over the crown of the head; its first three rays longest, spiny, separated from the soft ones by a deep emargination. Ventral placed before the pectoral fins, and consists of only two rays. A small tentaculary, three-fid appendage above each eye-brow; and a tubercular excrescence near the anus, in both sexes. It is *ovoviviparous*. No fish perhaps displays a greater diversity of hues, than this, and to make out any *specific difference* amongst its many varieties, is next to impossible, I am thus inclined to unite them under *one* common denomination, expressive at once, of the changeable character of their colours. The following are the chief varieties observed by me in fresh specimens.

1. Prevailing colour blood-red, mottled with greyish-white irregular blots; abdomen purplish on a white ground; fins deep-red, tinged with greyish-green. Iris purple. Length twelve inches. Caught principally amongst the rocks of Robben Island.

2. Head, back, and sides dark purple, marbled with reddish-brown, flesh-red, orange, and pale yellow marks. Belly white, shaded with purple. Pectoral rays striped with purplish-brown bands; dorsal, caudal and anal fins dull-brown, spotted with yellowish-green dots. Iris purple. Length ten to twelve inches. (*Blennius rubescens*. *Lichtenst.*?) Extremely pretty; caught along with the former.

3. Upper part of body pale yellowish-brown; head olive-green; sides and belly gamboge-yellow, sprinkled with irregular greenish-white marks; pectoral and caudal fins without bands; dorsal and anal with faint-green spots. Iris yellow. Length eight to ten inches.

4. The whole of back, sides, and fins olive-green; belly of a deeper yellow tint, with some white blots along the lateral line. Iris-yellow. Length six to eight inches.

The *Klip-fish* is greatly reputed for its flesh, which is nice, well-flavoured, and wholesome.

SILURINÆ.

37. *BAGRUS CAPENSIS*. A. SMITH. (*Bagger*).—Body oblong, thick, smooth, slimy; head large, broad, nearly flat above; muzzle round, blunt; upper lip fleshy, with a barbel on both sides; teeth crowded, velvety; chin supplied with four barbels, which are shorter than those of the upper jaw. Dorsal fins two; second flat, fleshy, smaller than the first; pectoral fins moderate; anal large, caudal deeply forked. Upper part of head, back and sides dark greenish-brown; lower parts shaded irregularly with blue, yellow, and silver, and flashed with a bronzy lustre. Belly dull greyish-white, speckled with small brown dots, and clouded with purple. Base of tail red; fins faintly flesh-coloured. Iris yellow. Length twelve to sixteen inches.

Owing to its ugliness, this curious fish, which hides itself amongst stones in muddy water, the better to entrap its unsuspecting prey, is, from popular prejudice, less prized than it deserves. Its flesh is extremely delicate, and bears a greater resemblance to that of the Eel, than that of any other sea-fish caught in the Colony.

CLUPEIDÆ.

38. *CLUPEA OCELLATA*. MIHI. N. SP. (*Shad*; *Sardyn*). Body compressed, elongated; head flattened at top; muzzle obtuse; upper jaw with a central notch, and a little projecting. *No teeth in either mandible*; eyes and scales large. One dorsal only, tail deeply forked. Length six to seven inches. Head and back blue, changeable to green, and shaded with purple, yellow, and gold. Lower jaw and gill-covers silvery, with a reflecting golden lustre; sides above the lateral line crossed by a sky-blue longitudinal stripe. A line of eight to fifteen round, black, eye-light spots, extends from the upper

edge of the operculum, along the whole body. Belly silvery. Iris gilt.

It would appear that this species stands intermediate between the common Shad (*Clupea alosa*) and the Twaite Shad (*Clupea finta*) possessing the toothless mouth of the former, but the size and colouring of the latter. Its natural length never exceeds six to seven inches. It is caught with the net and used occasionally as pickle-fish.

39. ENGRAULIS ENCRASICOLUS. FLEM. (*Ansjovis*; *Anchovy*).—Body slender; head and snout pointed; upper jaw projecting considerably. Mouth deeply and horizontally cleft far behind the eyes. Maxillaries and palate armed with small, but sharp numerous teeth. Scales large and deciduous; tail deeply forked. Top of head and back blue, with a tinge of green; flanks and belly silvery. Fins greenish-white. Length four to five inches.

Caught sometimes abundantly, with the net, in summer, but little used in the Colony; the Cape salt being found unfit for its preservation as a condiment.

GADIDÆ.

40. GADUS MERLUCIUS. LIN. (*Stok-visch*; *Hake*). Body elongated, slender; head broad, bony, depressed. Lower mandible protruding beyond the upper one; mouth very wide; teeth long, sharp, in a double row in each jaw; first row smaller and shorter than the inner-one. Two dorsal fins; first three-angular; caudal fin slightly lunate; ventral ovate, with five rays. No barble under the chin. Scales large.—Upper part of the body dusky-brown, with a bluish, steel-coloured gloss; belly dirty-white. Iris-yellow; inside of mouth black. Length from two to three feet.

It is remarkable that this fish, a notorious denizen of the European seas, was utterly unknown at the Cape of Good Hope before the earthquake of 1809 (4th December). At first it was scarce and sold at exorbitant prices (4s 6d.) Since that period it has yearly increased in numbers, and is now a standard fish on the market, being caught in great abundance.

English writers on Ichthyology comment very unfavourably on its merits, and call it a "coarse fish, scarcely fit for the dinner table." At the Cape its qualities are generally and fully appreciated; in fact, its flesh is highly delicate and but little inferior to that of the *Hadok* (*Gadus Æglefinus*). At times it makes its appearance in large shoals. It is then abundantly caught, salted, and dried for exportation. The cured or dried *Cape Stok-fish* is an excellent dish, far superior to that insipid stuff introduced from Holland or other countries.

XIPHIURIDÆ.

41. *XIPHIURUS CAPENSIS*. A. SMITH. (*Koningklipvisch*; *King's Rock-fish*.)—Body almost cylindrical, moderately robust. Head large; two rows of larger teeth in the upper, one of smaller ones in the lower jaw; vomer armed with teeth of the same description. Two barbels pending from the under surface of the lower mandible. Pectoral fins of an oval form; dorsal, caudal, and anal fins united. Tail narrow, tapering, compressed, sword-shaped. Ventral fins, none. Scales very small (A. SMITH). Has a large and very firm air-bladder. Flesh-coloured and clouded by a variety and intermixture of hues, difficult to describe. Lower surface, belly, and point of tail tinted with pale purple.

This fish, in some respects, seems closely allied to the family of the *Gadidæ*, while on the other hand it somewhat resembles the *Murænidæ*. Although its habitat is deep water, and not (as its name implies) amongst cliffs and rocks, yet it justly deserves the title of King's-fish, being, without exception, the most desirable fish obtainable in our bays. It is rather scarce, is an expert swimmer, appears on the coast as a harbinger of rough, stormy weather during winter, and commonly sells at very remunerating prices. Dr. ANDREW SMITH, the intelligent South African traveller, gave the first description of this fish in his admirable *Illustrations of the Zoology of South Africa*. It was however known previously to *Barrow* (1797), who, in his travels, (page 30) mentions it in the following terms: "Another Blennius, called *King's Rock-fish*, is sometimes caught (in Table Bay), to which, from its resemblance to the *Muræna* of the Ancients, Naturalists have given the specific name of *Murænoides*."

I quote this passage for the purpose of contradicting Dr. SMITH, who says: "that during one of the several earthquakes, which occurred many years ago, at the Cape, one or more sandbanks were formed near the entrance of Table Bay, and, that not long after, the first specimens

of this fish were obtained." It is evident that by some mistake or other, he attributed to the *Xiphiurus* what applies to the *Stokvisch*.

PLEURONECTIDÆ.

42. *SOLEA VULGARIS*. CUV. (*Tong* ; *Sole*.)—Body oblong, flat, pointed towards the tail; snout arcuated, projecting beyond the mouth, which is fringed below with small ciliated scales. Jaws unequal, armed on the under or white side only, with very minute, crowded teeth; eyes small, spherical, placed near each other on the upper or coloured side. Dorsal and anal fins extending as far as the tail. Ventral fins near the head; tail slightly rounded; lateral line straight. Length ten to fifteen inches. Upper surface olivaceous-brown, obscurely spotted with patches of a deeper hue; scales small, roundish, ciliated, rough to the touch; the upper side apparently reticulated; fins tipped with purplish-brown stripes. Lower side dull white, mixed with faint purple. Iris yellow.

It is hardly required to say much of this, almost cosmopolitical fish, which is, for its delicacy, prized as well at the Cape as elsewhere. It is not common, however, in the colony, and it rarely surpasses the length of twelve inches, although there are instances known of individuals measuring a foot and a half.

RAIDÆ.

43. *RHINOBATUS ANNULATUS*. A. SMITH. (*Zandkruiper*.)—Body convex above, level below, tapering from head to tail. Head flat, nearly three-sided; eyes small; teeth crowded, paved, blunt; clusters of small thorns between the eyes, and minute spines along the dorsal line. Dorsal fins two, close to the caudal, which is oval, ventral fins small; skin rough, like sha-green. Length two feet and upwards. Upper side yellowish-grey, with a greenish shade, sprinkled all over with white eye-like spots; under surface faint flesh-red, bordered with white.

This fish, which always dwells in localities, where the bottom of the sea is level and sandy, is rather scarce in Table Bay. Its flesh is tender and delicate.

44. *RAIÁ MACULATA*. MONTAG. (*Rog ; Scate ; Spotted Ray*.)—Body rhomboid, horizontally flat on both sides; snout narrow, pointed, blunt; mouth, nostrils, and gills on the under surface of the body. Teeth in many rows in both jaws; sharp, pointed, conical, and curved in *the male*; paved, broad, and flat in *the female*. Tail long, thin, three-sided, furnished all along its edges with three lines of strong, hooked, but irregular spines, and with two small dorsal fins towards its end. Both surfaces more or less smooth, but snout and upper margin of the large pectoral fins armed with clusters of hooked spines in *the male*, and with curved tubercular denticles in *the female*. *Male* provided with cylindrical cartilaginous appendages (claspers) to each ventral fin. *Female* larger than the *male*. Length two and a half feet and more. Colour above pale yellowish-brown, sprinkled with numerous, irregular, faint bluish-grey spots. Under surface somewhat rough, greyish-white, tinged with purple.

A good table fish, and a fore-runner of bad weather. It is caught with the net.

To the number of edible fishes enumerated here, I feel bound to add one, which I never saw, but which I introduce on the incontestable authority of Dr. A. SMITH, who has given the following description of it in the First Volume of the *South African Quarterly Journal* (1830) a publication full of interesting and useful information respecting the Cape Colony.

45. *SERRANUS CUVIERII*. A. SMITH. (*Rock Cod*.) Colour of back and sides brownish-yellow with blotches, streaks of irregular bands of dusky greenish-black; lower part of sides and belly reddish-yellow, with slight mixture of brown. Dorsal fins deep dusky-brown, with the extremities of the spinous rays reddish; ventral fins

towards apices brown, towards bases yellow; bases of pectoral fins bluish-white, finely spotted with orange; rest reddish-brown; tail even, or only very slightly rounded, with the hinder edge narrowly margined with white. Eyes orange.

A full-grown specimen of this fish measures about two and a half feet; it inhabits the ocean along the East coast of Africa, particularly about Algoa Bay, where it is frequently caught, and highly esteemed as an article of food.

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